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10/589,938	06/29/2007	Jessie Jianxin Zhao	294-257 PCT/US	2366
23869	7590	07/01/2011	EXAMINER	
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			ART UNIT	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/589,938	<b>Applicant(s)</b> ZHAO ET AL.	
	<b>Examiner</b> JENNA A. WATTS	<b>Art Unit</b> 1781	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4-9,11-21 and 25-32 is/are pending in the application.
- 4a) Of the above claim(s) 28-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-9,11-21 and 25-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102/Claim Rejections - 35 USC § 103***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**5. Claims 1, 4, 5, 7, and 11-13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jensen U.S. Patent No. 6,306,447).**

6. Regarding Claims 1, 4 and 7, Jensen teaches a batter composition (Column 4, lines 1-5), comprising insoluble vegetable protein such as soy protein and also teaches protein from a cereal such as barley proteins, oat proteins, rice proteins, wherein such proteins are isolated from their source because Jensen teaches the proteins themselves, and are insoluble in light of Claim 7. Jensen further teaches insoluble dietary fibers because Jensen teaches potato fiber (Column 4, line 40), which is also isolated from its source because Jensen teaches the fiber itself and is insoluble in light of Claim 4.

7. Regarding amended Claim 1 and the limitation of the insoluble vegetable protein obtained by thermal coagulation, Applicants' Claim 1 is written in a product-by-process format and as such, it is the novelty of the instantly claimed product that needs to be established and not that of the recited process steps. In re Brown, 173 USPQ 685 (CCPA 1972); In re Wertheim, 191 USPQ (CCPA 1976). Regarding Claim 1, since the product shown by this reference is an insoluble vegetable protein, the product is met.

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8. It is also noted that since Applicant discloses in the instant specification that the protein may be obtained in any way from the vegetable source, such as by acidic denaturation, thermal coagulation, ultrafiltration, or other methods, it is submitted by the Examiner that the process for obtaining the insoluble vegetable protein is not critical and it would have been obvious to one of ordinary skill in the art to use any known process for obtaining the claimed insoluble vegetable protein.

9. Regarding Claim 5, Jensen further teaches gums and pectin (Column 5, lines 38-43).

10. Regarding Claims 11-13, Jensen teaches sugars and salts which are flavors (Column 5, lines 25-27) and further teaches dietary fiber from a tuber in view of the teaching of potato fiber and teaches insoluble vegetable proteins from soy (see rejection of Claim 1 above).

***Claim Rejections - 35 USC § 103***

11. **Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen U.S. Patent No. 6,306,447).**

12. Regarding Claim 6, since Jensen teaches the claimed insoluble vegetable protein and teaches insoluble dietary fibers, it would be expected that the solubility of the protein and/or fiber in water at a temperature of 20C is 10 wt% or less, based upon the total weight of the solution because since Jensen teaches the claimed protein and fiber in the claimed composition, the components will react or co-act in the same manner as claimed by Applicant, and therefore, the properties of these components will

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necessarily be present because a component and its properties are inseparable.

Therefore, if the components are present, their properties would also be necessarily present. See *In re: Papesch* and *In re: Antonie* and MPEP 2141.02 V.

**13. Claims 1, 4-9, 11-21, and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bengtsson et al. (U.S. Patent No. 4,272,553) in view of Landon (Australian Patent Application No. 54821/90), both previously made of record.**

14. Regarding Claims 1, 4, 7, 12, 13, 15, 18, 19, Bengtsson teaches a batter composition for coating vegetables comprising insoluble dietary fibers because Bengtsson teaches a coating composition comprising potato fiber (Column 2, lines 27-41, Column 3, lines 63-64 and Column 4, lines 3-7), which is considered an insoluble dietary fiber in light of Claim 4 and is considered isolated from its source because Bengtsson teaches potato fiber itself, with the coating composition being considered a batter because Bengtsson teaches a process wherein the coating is applied directly to the food product and in view of Applicants disclosure of the batter composition which comprises comparable ingredients (see Applicant's specification, Page 9, Example 1). Bengtsson teaches that the batter/coating comprises soy or other oil seed flours and protein concentrate or isolate from various raw materials (Column 2, lines 35-36) but does not specifically teach insoluble vegetable protein. Therefore, Bengtsson teaches proteins isolated from its source of raw materials.

15. Landon teaches a batter composition for coating vegetables (Page 3, lines 30-34), comprising a filling agent in the form of casein or soya milk proteins or soya protein (Page 5, lines 1-5), where soya milk protein or soya proteins are considered insoluble

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vegetable protein in light of Claim 7 and casein is considered an insoluble dairy protein in light of original Claim 2. Landon teaches that soya protein is typically used in the batter (Page 5, lines 5-6). Landon teaches proteins isolated from their sources because Landon teaches the proteins themselves.

16. Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made, for the batter composition of Bengtsson to have comprised an insoluble dairy or vegetable protein isolated from its sources such as soy protein or casein, because Landon teaches that such insoluble protein sources are suitable for use in batters used for coating vegetables and teaches soy protein is typically used in such a batter. One of ordinary skill in the art at the time would have been motivated by Landon to incorporate protein sources such as soy protein or casein into batter compositions as the protein isolates in order to provide suitable batter compositions for vegetables.

17. Regarding Claim 5, Bengtsson in view of Landon teach a dietary fiber source of gums and pectins (see Bengtsson, Column 2, line 38).

18. Regarding Claim 6, since Bengtsson in view of Landon teach the claimed insoluble dietary fiber and the claimed protein, the solubility of the insoluble dietary fiber and/or protein in water at pH of 7 at a temperature of 20°C would be expected to be 10 wt % or less, based upon the total weight of the solution because it has been found that since Bengtsson in view of Landon teaches the insoluble dietary fiber and protein in a coating or batter composition that is the same as that claimed by Applicant, the component or dietary fiber will react or co-act in the same manner as claimed by

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Applicant and therefore, the properties of these components will necessarily be present because a component and its properties are inseparable. Therefore, if the components are present, their properties would also be necessarily present. See *In re: Papesch* and *In re: Antonie* as cited in MPEP 2141.02 V.

19. Regarding Claims 8, 9 and 14, Bengtsson in view of Landon teach a variety of components used in the batter/coating composition and teach that these different substances can be used alone or in different combinations (see Bengtsson, Column 2, lines 38-40) and teach potato components such as potato granules or flakes, potato fibers, etc. and teach combinations of potato granules and wheat flour in a proportion of 50-90% potato granules and 10-50% wheat flour and teach other combinations of 20% corn flake crumbs, 50% wheat flour and 30% potato granules by weight (see Bengtsson Column 2, lines 34-35, 50-60). Bengtsson in view of Landon further teach that besides the main components of the coatings mentioned above, small amounts of reducing sugar may be added in order to modify the color of the coating during frying and salt may also be added as desired (see Bengtsson, Column 2, lines 60-65). Therefore, Bengtsson teaches that the main components such as the potato fibers and protein isolates are in higher concentration than other minor components such as sugars and salt. In addition, Landon teaches that the filling agent which can be a wheat flour, casein, soya protein, or soya milk protein, etc. is present in an amount of 2-30% by weight of the batter (Page 3, lines 13, Page 4, lines 36-37 and Page 5, lines 1-5).

20. Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made, to optimize and maximize the amount of fibers and



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insoluble proteins to be at least 1% by weight based on the total dry weight and to have the other ingredients be 95 wt % or less, while keeping the fibers and protein isolates as main components of the batter or coating and in keeping with Landon who teaches that insoluble proteins are present in the batter in an amount of 2-30% by weight. One of ordinary skill in the art would have been motivated to optimize the amount of the fibers and proteins in the batter depending on the texture, flavor and baking or frying properties desired in the final coated food product. Furthermore, given the teachings of the prior art, it would have been within the skill of one of ordinary skill in the food art to modify the batter composition according to the functionality of the components chosen in the batter.

21. Regarding Claim 11, Bengtsson in view of Landon teach reducing sugars and salts and further teach thickeners (see Bengtsson, Column 2, lines 37 and 60-65).

22. Regarding Claims 15, 17, 18 and 19, Bengtsson in view of Landon teach a coated food product, such as coated vegetables (see Bengtsson in the rejection of Claim 1), wherein at least a part of the surface of the food product comprises a batter composition and at least part of the surface comprising the batter composition comprises bread crumbs and further teach a method for preparing a coated food product comprising coating the food product with the composition, because Bengtsson in view of Landon teach that after cutting into pieces, the vegetables have exposed wet surfaces and to these a certain amount of dry coating will adhere (see Bengtsson, Column 2, lines 66-68). Bengtsson in view of Landon further teach that the coating composition can also comprise bread crumbs (see Bengtsson, Column 2, line 36) and

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further teach coating mixtures comprising bread crumbs (see Bengtsson Column 7, lines 25-30) applied to the food products. In addition, Landon further teaches that the battered food product can be crumbed with bread crumbs prior to frying (see Landon, Page 3, lines 22-23).

23. Regarding Claim 16, Bengtsson in view of Landon teach that after coating and frying, the pieces are drained and frozen in a conventional manner (see Bengtsson, Column 3, lines 4-8 and 63-64).

24. Regarding Claim 20, Bengtsson in view of Landon are taken as cited above in the rejection of Claim 1 and teach a process which comprises mixing ingredients comprising at least one component of insoluble vegetable protein and insoluble dietary fibers (see rejection of Claim 1 and Bengtsson, Column 2, lines 30-40).

25. Regarding Claims 21, and 25-26, Bengtsson in view of Landon are taken as cited above in the rejection of Claim 15 and teach that the frozen fried product may be reheated in an oven, in oil or by pan frying and that one of the advantages is that a very crispy surface is obtained irrespective of the reheating method used (see Bengtsson, Column 4, lines 3-7), wherein oven cooking is synonymous with baking. Therefore, Bengtsson in view of Landon also teach a method for imparting a crispy texture to a microwaved and/or oven baked food comprising coating said food with a batter composition comprising at least one component of insoluble vegetable protein and insoluble dietary fibers and wherein the insoluble dietary fiber is potato fiber (see rejections of Claims 1 and 15).

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26. Regarding Claim 27, Bengtsson in view of Landon are taken as cited above in the rejection of Claim 25 and since Bengtsson in view of Landon teach the claimed protein, the solubility of the protein in water at pH of 7 at a temperature of 20°C would be reasonably expected to be 10 wt % or less, based upon the total weight of the solution because it has been found that since Bengtsson in view of Landon teaches protein in a coating or batter composition that is the same as that claimed by Applicant, the component will react or co-act in the same manner as claimed by Applicant and therefore, the properties of these components will necessarily be present because a component and its properties are inseparable. Therefore, if the components are present, their properties would also be necessarily present. See *In re: Papesch* and *In re: Antonie* and MPEP 2141.02 V.

### ***Response to Arguments***

27. Applicant's arguments filed 4/21/2011 have been fully considered but they are not persuasive.

28. In response to Applicant's arguments that the cited references do not teach insoluble vegetable protein, the Examiner respectfully disagrees and points out that since Applicant's claims use "comprising" language, this does not exclude the soluble part of the protein from also being present in the batter, and therefore Applicant's claims also read on whole protein sources comprising both insoluble and soluble protein fractions. Therefore, since the cited references teach soy protein as the protein source that is isolated from its source because the references teach the protein itself (as

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opposed to generally teaching soy bean material) and therefore teach both soluble and insoluble protein because it is known in the art that protein materials such as soy protein contain both soluble and insoluble protein, the cited references are deemed to meet the claimed limitations. Furthermore, as previously stated, it would be reasonably expected that the insoluble portions of the soy protein would have the claimed solubility parameters in light of the fact that Applicant teaches soy protein is a suitable protein source to be used for the claimed batter composition. It is also noted that in Example 2 of Applicant's specification, the composition comprises "potato protein" and it is not specified whether the potato protein is only the insoluble protein or potato protein as a whole that may also comprise soluble protein material as well.

29. Regarding Applicant's arguments relating to the claimed limitation of "wherein the insoluble vegetable protein is obtained by thermal coagulation", it is first noted that such a phrase does not preclude that both the soluble and insoluble vegetable fiber be obtained by the claimed method. Secondly, regarding the weight given to a product by process limitation, thermal coagulation is a known way of separating protein from its vegetable source and is not necessarily only used to obtain insoluble protein material. It is further noted that Applicant cited the below passage from the MPEP, Section 2113, regarding weight given to process limitations:

30. "The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product."

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31. Although Applicant has disclosed various benefits afforded to the composition due to using a thermal coagulation process to obtain the protein, the Examiner asserts that Applicant has not met the burden of Section 2113 of the MPEP by showing that the product can only be defined by the process steps by which the product is made, or that the manufacturing process steps impart distinctive structural characteristics to the final product. Applicant has not provided any disclosure in Applicant's specification regarding the criticality of using thermal coagulation methods and how such methods would impart "distinctive structural characteristics to the final product". To the contrary, Applicant discloses in Applicant's specification that "[t]he protein may be obtained in any way from the vegetable source or from dairy, e.g. by acidic denaturation or by thermal coagulation, e.g. as disclosed in U.S. Pat. No. 6,187,367. Ultrafiltration, e.g. as described in WO 97/42834, is also suitable to obtain a protein product. Further suitable technology is known from WO 97/03571 and from WO 02/100187." (Paragraph 27 in PG Publication). Therefore, it appears from Applicant's specification that thermal coagulation is one of many ways to obtain a protein isolated from its source, and using any one specific method does not appear to have provided distinctive structural characteristics to the final product or that using the claimed method has resulted in a different protein product.

32. Furthermore, regarding Applicant's arguments relating to Jensen not teaching a batter composition, Jensen teaches that the composition of the invention may be used in the preparation of a variety of food stuffs, and where the foodstuffs include bakery products prepared from bakery batters, such as cake batters, etc. (see Jensen, Column

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4, lines 1-5) and teaches an example where the composition of the invention is used in a batter (Column 7, Example 1), thereby teaching a batter composition comprising the claimed components.

33. Therefore, the rejections of record are maintained and the office action is made final and is deemed proper.

### ***Conclusion***

34. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

35. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNA A. WATTS whose telephone number is (571)270-7368. The examiner can normally be reached on Monday-Friday 9am-5:30pm.

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37. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

38. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 1781  
June 29, 2011